Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

DISCUSSION OF STREET CLEANING

JOHN T. FETHERSTON

Commissioner of Street Cleaning

History

THE department of street cleaning in the old city of New York was created in 1881. On consolidation in 1898 the jurisdiction of the department was extended throughout the five boroughs of Greater New York until 1902, when street cleaning in the boroughs of Queens and Richmond was placed under control of the respective borough presidents. To-day the department of street cleaning has jurisdiction in Manhattan, Brooklyn and The Bronx, covering a territory of approximately 85,898 acres, including 28,535,010 square yards of pavement, and having a population of 5,190,779 in 1914.

Organization

The department is administered by a commissioner appointed by the mayor, with a deputy commissioner in each of the three boroughs and one deputy in the main office. Three general divisions of the force are recognized: First, the uniformed force, under direction of a general superintendent, organized on a semi-military basis as the line division; second, the clerical staff; and third, a new division, created in 1914, known as the technical or planning division. The total force on the rolls consists of 7,153 men, of whom 1,500 are extra employes for replacing absentees in the sweeping and driving forces.

The unit of organization is a district, containing on the average 250,000 residents, in direct control of a district superintendent, who has charge of all street cleaning activities within the area. The responsibility is thus definitely fixed upon one individual for all operations within a given territory.

Functions

The main functions of the department are:

(a) The cleaning of streets.

(*b*) The collection and removal of refuse, consisting of ashes, garbage, rubbish and street sweepings.

(*c*) The disposal of various classes of waste.

(*d*) The seizure of roadway incumbrances.

(*e*) The removal of snow and ice.

Sub-functions include the maintenance, care and operation of stables, horses and equipment; repairs, renewals and replacement of structures and equipment by a mechanical division; accounting and cost-keeping control through the main office records; disciplinary control through published orders and codes of penalties for violations of rules.

The regular appropriation for the street cleaning department in 1914 amounted to $7,646,187, or at the rate of $1.47 per capita per annum. In 1910 the cost per capita per annum was $2.05.

Problems

Street cleaning employes have definite tasks assigned, for the accomplishment of which they are held responsible. Each sweeper, driver, foreman and superintendent has a designated area or route to cover and a definite task to perform within a given time and, regardless of hours, the work must be completed. Thus, a day with regular hours is the exception rather than the rule in the department. Officers work nine to ten hours normally; drivers of refuse collection vehicles work until their respective routes are cleaned, which averages not less than nine hours a day, and ten hours during the winter season, when the amount of refuse produced is at a maximum.

With 7,153 employes the human problem is naturally a complex one, and it is further complicated by the fact that the men are the lowest paid employes in the city service.

An inventory of department conditions early in 1914 showed:

(*a*) That the personnel was generally satisfactory, but that the men needed instruction and guidance in order that their work might be made more effective.

(*b*) That the equipment of the department was the same as that installed by Colonel Waring over seventeen years ago, and needed radical improvement to meet demands for higher standards of outdoor cleanliness.

(*c*) That the methods pursued were capable of improvement through intensive studies by a competent technical staff.

From a sanitary point of view it was apparent that thorough cleansing of streets was necessary to supplement the system of hand sweeping and machine sweeping in vogue, and that the open ash can, the open ash cart, the open waterfront dump and the open methods of disposal of refuse, all nuisances affecting the health, comfort and convenience of the people, must be modified and improved to meet the higher standards demanded by citizens. Sidewalks in charge of occupants and roadways under city control must be maintained in equally cleanly condition to achieve a uniform degree of street sanitation.

What Has Been Done

A complete program was drafted in 1914 to meet the demand for improved street conditions:

(*a*) *Model District*

Funds have been appropriated for the installation of modern equipment in a so-called "model district," designed to obviate the nuisance attending the collection and handling of refuse. According to this plan horse-drawn equipment will be replaced by motor-driven tractor-trailer units, so arranged that refuse may be placed in a standard type of receptacle and emptied into compartments on trailers without allowing the escape of dust or odors. The same tractor will be used at night for thorough cleansing of streets by flushing or machine sweeping, and during the snow period, the tractors when fitted with snow plows will be utilized for clearing roadways and removing snow. The purpose of the model-district program is to eliminate the nuisances within the populous districts, and the plan will be extended to all parts of the city as fast as the tests in the model district have proved the sanitary efficiency and economy of the designs, and as funds are available for the purpose. To carry out this program will require an investment of approximately $250,000 per district, and will save $50,000 per year in each district. Completely to equip the department with modern apparatus will involve an ultimate investment of about $6,000,000, spread over a period of years, with an estimated reduction in annual expenses of $1,000,000.

(*b*) *Final Disposition*

The methods pursued to-day in the final disposition of refuse are not only unsanitary, but costly. In 1914 the city paid contractors about $1,400,000 for the disposal of refuse, and this expense under the present system will increase with the growth of population. A committee of the board of estimate and apportionment studied the problem of waste disposal in 1912, and recommended the adoption of a complete utilization system, on a profit-sharing contract basis, involving an investment of approximately $9,000,000 in plant and equipment. Under this plan garbage would be treated by the reduction process for the recovery of grease and fertilizer base; the valuable portions of rubbish would be reclaimed and the residue burned for the production of steam power; ashes would be screened and the unburned coal (which varies between 20% and 40% by weight of all ashes collected) would be utilized for the production of power; street sweepings and fine ash would be used for land fills. It was estimated that through this process, under normal conditions, with efficiently operated plants, it would be possible to pay all operating expenses and fixed charges, and obtain a profit of approximately 10% on the investment. This would mean a saving of $2,300,000 per annum, compared with the methods of 1914. Of this amount the city would save at least $1,400,000, the present cost of disposal, and a proportion of the profits, depending upon the city's investment in the project. A bill to carry out this plan was submitted to three sessions of the legislature, and was passed in 1915, but was vetoed by the governor. The city to-day is therefore unable to take advantage of the proposed plan except through municipal ownership and operation of final disposition works, and under existing financial conditions it is doubtful if the improvements can be carried out.

The realization of a sanitary and economical system of final disposition projected for the department would have resulted in the elimination of present nuisances at disposal works, waterfront dumps, and land fills, besides saving millions of dollars to the city, and it is believed that the proposed plan is so logical and sound in conception that temporary defeats will result only in delaying its final acceptance and adoption.

(c) *Snow Work*

The most difficult problem of the street cleaning department is the removal of snow and ice from roadways. In 1914 over 5,000,000 cubic yards of snow were removed at a cost of about $2,500,000. The maximum rate of removal depended upon the number of trucks available for this work, and 3,000 vehicles represented this limit. As an average truck holds 5 cubic yards of snow and can make ten trips per day, the maximum rate of snow removal by trucking was 150,000 cubic yards per day in 1914.

To increase the rapidity of snow removal a new plan was tried in 1915, and the "snow fighting" force was organized to start work during the storm and place snow in sewers for disposal by water transportation instead of trucking to the rivers and bay.

This plan involved the registration of 40,000 "snow fighters," operating in eight-hour shifts, with 12,000 emergency men per shift.

Three snow storms were fought in this way during the winter of 1915, and compared with previous years the work was completed in half the time at less than half the cost.

Centralized v. Local Street Cleaning Departments

Discussion of charter revision will inevitably raise the question of the relative advantages of a central department of street cleaning *v.* local departments under the control of the borough presidents, and this should be settled if possible on a basis of fact rather than opinion. If it is conceded that adequate administrative control can be secured through a centralized department, there is little doubt that economy should result through standardization of personnel, equipment and methods. From 1898 to 1902 the department of street cleaning had jurisdiction over all five boroughs, but was not organized to meet local conditions in Queens and Richmond. Thus these boroughs felt that they were neglected, and street cleaning was placed in charge of the respective borough presidents. The cost of street cleaning in Queens has increased from $95,742.73 in 1902 to $512,737.39 in 1914; in Richmond the cost has increased from $75,894.53 in 1902 to $205,272.92 in 1914; while the cost of the department of street cleaning has increased from $5,392,823.11 in 1902 to $7,726,404.67 in 1914. Thus, in twelve years the cost in Queens has increased 435.4% with 127.3% increase in population; in Richmond 170.4% with 42.9% increase in population; and under the department of street cleaning in the other three boroughs, 43.2% with 48.7% increase in population. The foregoing costs are exclusive of snow removal.

It is possible that street cleaning proper and the collection of refuse within the boundaries of a borough might be placed in charge of the borough president, but the final disposition of wastes as a borough problem could not be economically carried out locally, as the revenues from the utilization of by-products depend upon mass treatment of the wastes. All indications point to the advantages of a centralized refuse disposal plant to serve Manhattan, The Bronx, Brooklyn, and possibly a portion of the north shore of Queens, and these advantages would be lost in subdividing the work by boroughs.

A centralized department has advantages in the purchase of materials, plant and equipment over local divisions and, given a skilled planning division, making intensive studies of men, equipment and methods, there is little doubt that the centralized department has many advantages over local borough divisions. It is recognized, of course, that forms of organization and legislative enactments are not the determining factors in efficiency and economy of governmental service, and if charter revision is to set up new standards of administration, it is suggested that means for securing and retaining competent officials are more important than the size or form of organization.

Perhaps the most successful administrator in the history of the government of New York was Colonel Waring of the street cleaning department, who gave as the reason for his success that he "did the work for its own sake, and any other commissioner who followed this principle would have equal success in his particular sphere of action."